Amendments to the Claims

Please cancel Claim 8. Please amend Claims 1, 6 and 7. The Claim Listing below will replace all prior versions of the claims in the application:

Claim Listing

1. (Currently Amended) A heterostructured field effect transistor having ~~a multi-gate configuration~~ a plurality of gates wherein the gates have a trapezoidal cross-section, the gate voltages being individually ~~biased~~ applied to tailor [[the]] a potential along a channel of the transistor ~~field~~.

2. (Original) The transistor of claim 1 wherein the potential is a substantially uniform potential.

3. (Original) The transistor of claim 2 wherein the heterostructured field effect transistor is a high electron mobility transistor.

4. (Original) The transistor of claim 3 wherein the tailoring occurs along a channel of the high electron mobility transistor to create a uniform distribution of energy subbands.

5. (Original) The transistor of claim 4 wherein the uniform potential accelerates electrons as they are injected into the channel.

6. (Currently Amended) The transistor of claim 4 wherein the width of [[the]] a heterostructure barrier is substantially uniform along the channel.

7. (Currently Amended) The transistor of claim 6 wherein the tailoring is accomplished by making the slope of [[the]] a 2D electron gas barrier more uniform along the channel.

8. (Canceled)

9. (Original) The transistor of claim 1 wherein the distance between two gates is submicron.

10. (Original) The transistor of claim 1 wherein the multi-gate configuration is a two-gate configuration.

11. (Original) The transistor of claim 1 wherein the multi-gate configuration is a three-gate configuration.

12. (Original) The transistor of claim 1 wherein the multi-gate configuration is a four-gate configuration.

13. (Original) The transistor of claim 1 wherein the transconductance of the transistor is substantially linear over a range of gate voltages.